

## Ch 1 Practice Test

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Evaluate the following:

1.  $32^{\circ}19' + 12^{\circ}48''$

$45^{\circ} 7'$

2.  $15^{\circ} 23' - 8^{\circ} 37'$

$6^{\circ} 46'$

3. Find the measure of two complimentary angles with measures  $(5z - 20)$  and  $(4z + 30)$

$z = 8.9$     $24.5^{\circ}$  and  $65.5^{\circ}$

4. Find the measure of two supplementary angles with measures  $(2z - 30)$  and  $(4z + 90)$

$z = 20$     $10^{\circ}$  and  $170^{\circ}$

5. Convert  $56^{\circ} 32' 22''$  to decimal degrees.

$\approx 56.539$

6. Convert  $47.1956^{\circ}$  to DMS.

$\approx 47^{\circ} 11' 44''$

Find one positive co-terminal and one negative co-terminal

7.  $135^{\circ}$

$495^{\circ}$  and  $-225^{\circ}$

8.  $-312^{\circ}$

$48^{\circ}$  and  $-672^{\circ}$

Find an angle co-terminal to the following with  $0^{\circ} \leq \theta \leq 360^{\circ}$

9.  $926^{\circ}$

$206^{\circ}$

10.  $-712^{\circ}$

$8^{\circ}$

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Find the values of the 6 trig functions in standard position given the following.

11. (5, -1)

$$\sin\theta = -\frac{\sqrt{26}}{26}$$

$$\csc\theta = -\sqrt{26}$$

$$\cos\theta = \frac{5\sqrt{26}}{26}$$

$$\sec\theta = \frac{\sqrt{26}}{5}$$

$$\tan\theta = -\frac{1}{5}$$

$$\cot\theta = -5$$

12.  $\sin\theta = -\frac{4}{3}$ , and  $\cos\theta < 0$

Not possible  $\sin\theta$  cannot be less than -1

13.  $\tan\theta = \frac{2}{5}$ , and  $\sec\theta < 0$

$$\sin\theta = -\frac{2\sqrt{21}}{21}$$

$$\csc\theta = -\frac{\sqrt{21}}{2}$$

$$\cos\theta = -\frac{5\sqrt{21}}{21}$$

$$\sec\theta = -\frac{\sqrt{21}}{5}$$

$$\tan\theta = \frac{2}{5}$$

$$\cot\theta = \frac{5}{2}$$

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Determine what quadrant  $\theta$  terminates given the following

14.  $\sec\theta > 0$  and  $\cot\theta < 0$

**Q IV**

15.  $\tan\theta > 0$  and  $\sin\theta > 0$

**Q I, if tangent is positive and sine is positive that must mean that cosine is also positive**

What are the values of the following trig functions quadrantal angles?

16.  $\sin\theta$

**0, 1, or -1 presuming  $r = 1$**

17.  $\sec\theta$

**undefined, 1, or -1 presuming  $r = 1$**

18.  $\cot\theta$

**0 or undefined**

19. A propeller rotates 195 times per minute. Through how many degrees will a point on the edge of the propeller rotate in 2.6 seconds.

**$3042^\circ$**

20. A Windmill rotates 245 times per hour. Through how many degrees will a point on the edge of the mill rotate in 12 minutes.

**$17,640^\circ$**